What is claimed is:

1. A projector, comprising an image display portion and a projection lens for projecting an image displayed on said image display portion on a screen,

said projector, further comprising;

an image sensor which is placed in the vicinity of said projection lens and images the projected and displayed image and said screen;

means for detecting a projection display area from the image imaged by said image sensor;

means for detecting a screen area from the image imaged by said image sensor; and

means for correcting an inputted image data so that said projection display area matches said screen area.

2. The projector according to claim 1, wherein said image sensor images the projected and displayed image through said projection lens.

3. The projector according to claim 1, wherein means for detecting said projection display area calculates the positions of the four corners of said projection display area.

4. The projector according to claim 1, wherein means for detecting said screen area calculates the positions of the four corners of said screen area.

5. The projector according to claim 1, wherein means for detecting said projection display area discriminates the positions of a plurality of representative points on the

projected and displayed image.

6. The projector according to claim 1, wherein a test image is projected in order to image said projection display area by said image sensor.

7. The projector according to claim 1, wherein a display position and a size of the image displayed on said image display portion are transformed to an analogous shape of said detected screen area.

8. The projector according to claim 7, wherein an image is projected on the portion in which said screen area and said projection display area are superposed when said screen area and said projection display area are different.

9. The projector according to claim 1, wherein said projection display area is shown by coordinates inside the image imaged by said image sensor.

10. The projector according to claim 1, wherein said screen area is shown by the coordinates inside the image imaged by said image sensor.

11. An image distortion correction method of a projector which projects an image displayed on an image display portion on a screen, comprising the steps of:

imaging said screen by an image sensor installed in the vicinity of said projection lens;

detecting the area of said screen from an imaged screen

image; and

correcting an inputted image so that the projection display area previously detected matches said screen area.

12. The image distortion correction method according to claim 11, wherein said projector is installed so that said screen area, which is imaged, is included in said projection display area.

13. The distortion correction method according to claim 11, wherein said image sensor images said screen through said projection lens.

14. The image distortion correction method according to claim 11, wherein the method has the positions of the four corners of said screen area as the data of said projection display area.

15. The image distortion correction method according to claim 11, wherein the method calculates the positions of the four corners of said screen area as the data of said screen area.

16. The image distortion correction method according to claim 11, wherein the method has the positional data of a plurality of representative points on the projected and displayed image as the data of said projection display area.

17. The image distortion correction method according to claim 11, wherein the display position and the size of the image displayed on said image display portion are modified to the analogous shape of said detected screen area.

18. The image distortion correction method according to claim 17, wherein an image is projected and displayed in the portion in which said screen area and said projection display area are superposed when said screen area and said projection display area are different.

19. The image distortion correction method according to claim 11, wherein said projection display area is shown by coordinates inside the image imaged by said image sensor.

20. The image distortion correction method according to claim 11, wherein said screen area is shown by coordinates inside the image imaged by said image sensor.

21. A projector, comprising an image display portion and a projection lens for projecting an image displayed on said image display portion to a screen,

said projector further comprising:

an image sensor for imaging a projected and displayed image and said screen;

means for calculating a distance between a plurality of points inside the projected and displayed image and said projector from the image imaged by said image sensor;

means for detecting a positional relationship between said projector and said screen from said distance; and

means for correcting an inputted image data based said positional relationship so as to display the image on said screen in an object shape.

22. The projector according to claim 21, wherein said image sensor is placed in the vicinity of said projection lens.

23. The projector according to claim 21, wherein said image sensor images the projected and displayed image through said projection lens.

24. The projector according to claim 21, further comprising means for detecting the distance from said projector to said screen by detecting the projected and displayed image in a focused state.

25. The projector according to claim 21, wherein, when the positional relationship between said projector and said screen is detected, a plurality of representative points on the projected and displayed image is discriminated.

26. The projector according to claim 21, wherein, when the positional relationship between said projector and said screen is detected, an image for test purpose is projected and displayed.

27. The projector according to claim 25, wherein, to recognize a plurality of representative points on said image, specific representative points are displayed by flashing, and are discriminated as specific positions on the image by recognizing a flashing state thereof by the image sensor.

28. The projector according to claim 1, in the case where an area of said screen cannot be detected, further comprising a

function to automatically perform the correction of an inputted image data in such a manner that the distance from the image imaged by said image sensor between a plurality of points inside the projected and displayed image and said projector is calculated, and the positional relationship between said projector and said screen is detected from said distance, and the image is displayed on said screen in an object shape based on said positional relationship.

29. The projector according to claim 1, comprising:

means for projecting and displaying a pattern inside said screen;

means for detecting an area of the projected and displayed pattern; and

means for detecting a projection display area from the area of the detected pattern.

30. The projector according to claim 29, comprising means for correcting an optical distortion of said image sensor.

31. The projector according to claim 29, comprising:

means for comparing the projection display area subsequent to a distortion correction and the screen area; and

means for feeding back the comparison result and updating the distortion correction in such a manner that the projection display area subsequent to the distortion correction and the screen area are matched.

32. The projector according to claim 21, comprising,

means for projecting and displaying a central portion image

and an outer peripheral image;

wherein said outer peripheral image is about a size to explicitly point out to user on a limit of the image distortion correction by installing said screen in such a manner that the screen contains said central portion image and is placed inside rather than outside of said outer peripheral portion image.

33. The projector according to claim 21, in a state of being unable to perform the image distortion automatic correction, further comprising:

means for projecting and displaying a central portion image; and

means for performing the image distortion correction by allowing four corners of said central portion image to match four corners of said screen.